



Sentiment Analysis

A Probabilistic Approach

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February 1, 2012



Outline

- 1 The goal
- 2 Approach
- 3 Data Preprocessing
- 4 Classification
- 5 Webserver Framework
- 6 Conclusion



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The goal of the project

Project Description

Performing Sentiment Analysis on messages about the EO

- Classification Sentiment vs. Non Sentiment
- Classification Positive vs. Negative



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Approach

- Dataset Analysis
- Preprocessing of the data
- Perform Machine Learning Algorithms on data
- Use the best algorithm to server



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- 3** Data Preprocessing
 - Data Cleaning
 - Data Manipulation



Data Preprocessing

Which features are used?



Data Cleaning

Hoe hebben we de data gecleaned



Data Manipulation

Nog meer data manipulatie?



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Outline

- 4 Classification
 - Perceptron
 - Support Vector Machine
 - Naive Bayes
 - Multiclassification with Perceptron
 - Entropy
 - Neural Network



Classification



Perceptron

Perceptron



Perceptron

Results



Support Vector Machine



Results



Naive Bayes



Results



Multiclassification with Perceptron

Multiclassification with Perceptron



Multiclassification with Perceptron

Results



Entropy



Results



Neural Network



Results



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Webserver Framework

Request (HTML) → Server (PHP/PYTHON) → Result (XML)

Request `http://url.com/?dataset=1&message=De EO is cool!`

Result XML File (Containing: Status, Message, Sentiment, Accuracy, Precision, Recall)



Demo

Action...



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Conclusion



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